

WHAT IS CLAIMED IS:

1. A coupling device for coupling a patient-side medical line to an equipment-side medical line, said coupling device comprising:
 - a first part adapted to be coupled to a first medical line, said first part having a first passage therethrough to provide fluid communication with said first medical line, said first part including a first seal having a sealed position and an unsealed position, wherein said first seal seals said first medical line when in said sealed position; and
 - a second part adapted to be coupled to a second medical line, said second part having a second passage therethrough to provide fluid communication with said second medical line, said second part including a second seal having a sealed position and an unsealed position, wherein said second seal seals said second medical line when in said sealed position,
wherein said parts include a connector detachably connecting said first part to said second part in a longitudinal direction, wherein said connector detaches said first and second parts in response to a predetermined force in said longitudinal direction, and wherein each of said seals moves from said sealed position to said unsealed position when said first part is detachably connected to said second part.
2. The coupling device claimed in claim 1, wherein said connector includes a snap-fit connector.
3. The coupling device claimed in claim 1, wherein said connector includes a rounded protrusion on said first part and a cooperating groove formed in the surface of said second part.
4. The coupling device claimed in claim 3, wherein said first part includes one or more resiliently flexible arms extending longitudinally and having formed thereon one or more of said protrusions.

5. The coupling device claimed in claim 4, wherein said first part includes a cylindrical body, said arms are disposed around the periphery of said cylindrical body, and said protrusions extend radially inwards, and wherein said second part includes a cylindrical main body and said cooperating groove extends circumferentially within the outer surface of said cylindrical main body.
6. The coupling device claimed in claim 1, wherein at least one of said seals includes diaphragm.
7. The coupling device claimed in claim 6, wherein said diaphragm is formed from silicone.
8. The coupling device claimed in claim 6, wherein said diaphragm includes a slit therethrough, and wherein in said sealed position said diaphragm pinches said slit closed, and in said unsealed position said diaphragm draws apart at said slit.
9. The coupling device claimed in claim 8, wherein said diaphragm has an inner surface and includes a pair of channels formed within said surface on either side of said slit.
10. The coupling device claimed in claim 9, wherein said channels are parallel to said slit, and wherein said channels each include an angled face having a surface angled with respect to said slit.
11. The coupling device claimed in claim 8, wherein said diaphragm has an inner surface and includes a circumferential channel formed within said surface around said slit.
12. The coupling device claimed in claim 11, wherein said circumferential channel includes an angled face having a surface angled with respect to said slit.
13. The coupling device claimed in claim 1, wherein said second part includes a fluid delivery device disposed within said second passage and coupled

to said second medical line, and wherein said second seal includes a resiliently deformable sheath enveloping said fluid delivery device.

14. The coupling device claimed in claim 13, wherein said fluid delivery device includes a needle.
15. The coupling device claimed in claim 14, wherein the end of said sheath includes a diaphragm having a slit therein.
16. The coupling device claimed in claim 13, wherein said sheath includes a resiliently flexible forward extending skirt having an outer end coupled to the second part.
17. A coupling device for coupling a patient-side medical line to an equipment-side medical line, said coupling device comprising:
 - a first body having a first passage therethrough for coupling to a first medical line;
 - a second body having a second passage therethrough for coupling to a second medical line; and
 - a connection means for detachably connecting said first body to said second body and providing fluid communication between said first and second medical lines, said connection means disconnecting said first body from said second body in response to a separating force; wherein said first body includes a first sealing means for sealing said one medical line and wherein said second body includes a second sealing means for sealing said other medical line when said first and second bodies are disconnected, and for unsealing said first and second medical lines when said first and second bodies are connected.
18. The coupling device claimed in claim 14, wherein said connection means includes a snap-fit mechanism.
19. The coupling device claimed in claim 14, wherein said first body includes

a protrusion for pushing said second sealing means into an unsealed position when said first and second bodies are connected.

20. The coupling device claimed in claim 14, wherein said second body includes a protrusion for pushing said first sealing means into an unsealed position when said first and second bodies are connected.
21. The coupling device claimed in claim 14, wherein said second sealing means includes a sheath means for enveloping a needle, and wherein said sheath means includes a forward extending skirt means for biasing said sheath means into a sealed position.
22. A first adapter for coupling to a second adapter of a coupling device for coupling a patient-side medical line to an equipment-side medical line, said second adapter having a second body adapted to be coupled to a first medical line, said first adapter comprising:
a first body adapted to be coupled to a second medical line, said first body having a first passage therethrough to provide fluid communication with said second medical line, said first body including a first seal having a sealed position and an unsealed position, wherein said first seal seals said second medical line when in said sealed position, said first body including a connector for detachably connecting said first body to said second body in a longitudinal direction, said connector detaching said first and second bodies in response to a predetermined force in said longitudinal direction,
wherein each of said seals moves from said sealed position to said unsealed position when said first body is detachably connected to said second body.
23. The first adapter claimed in claim 18, wherein said connector includes a snap-fit connector.
24. The first adapted claimed in claim 18, wherein at least one of said seals includes a diaphragm having a slit therein.